This listing of claims is to replace all previous listing of claims.

Claims 1-21 (Canceled)

22. (Currently Amended) A fluorescence correlation spectroscopy module arrayed in an optical connection of a microscope comprising:

a support body;

a coupling connection coupled to said support body;

a pinhole array comprising at least one pinhole coupled to said support body;

at least one detector coupled to said support body;

a lens array comprising at least one lens, coupled to said support body, and positioned between at least one pinhole in said pinhole array and said at least one ~~of said plurality of~~ detectors, said lens array for focusing an emission light passing through said at least one pinhole and onto said at least one detector;

a fiber optic waveguide disposed within said support body coupling connection for coupling in a stimulating light;

a plurality of dichroic beam splitters comprising a first dichroic beam splitter and at least a second dichroic beam splitter coupled to said support body in a beam path and wherein at least one pinhole from said pinhole array is disposed between said first dichroic beam splitter and said at least a second dichroic beam splitter for focusing the beam between said first and said at least a second dichroic beam splitters.

23. (Currently amended) The module as in claim 22, wherein said ~~coupling~~ optical connection of the microscope is an optical inlet.

24. (Currently Amended) The module as in claim 22, wherein said ~~coupling~~ optical connection of the microscope is an optical outlet.

25. (Currently Amended) The module according to claim 22, further comprising a collimator for generating a parallel light beam that is disposed within said support body in an excitation beam path after said coupling connection.

26. (Canceled)

27. (Canceled)

28. (Currently Amended) The module as in claim 2~~7~~2, further comprising at least one receptacle holder removably inserted within said support body, and a filter array comprising at least one filter, wherein said at least one filter from said filter array and at least one dichroic beam splitter from said plurality of dichroic beam splitters form an optical unit that is set in said at least one receptacle holder.

29. (Canceled)

30. (Canceled)

31. (Currently Amended) The module as in claim 28, wherein said ~~at least one~~ optical unit further comprises at least one mirror.

32. (Currently Amended) The module as in claim 28, further comprising at least one additional receptacle holder which is removably inserted into said support body and for receiving ~~said~~ at least one mirror, wherein said ~~at least one~~ optical unit is arrayed within said at least one receptacle holder that is removably inserted into said support body.

33. (Canceled)

34. (Canceled)

35. (Previously Presented) The module as in claim 28, wherein said at least one receptacle holder is removably disposed within said support body and wherein said at least one receptacle holder comprises shaped surfaces, and said support body has cavities having complementary shaped surfaces arrayed and fixed in a beam path in said support body.

36. (Previously Presented) The module as in claim 22, wherein said support body is made in one piece from a metallic material and has a connection flange for attaching said support body to the connection of the microscope.

37. (Previously Presented) The module as in claim 28, wherein said at least one receptacle holder has angled lateral surfaces and wherein said support body has a series of cavities for receiving said at least one receptacle holder, wherein said cavities have complementary angled lateral surfaces to align said optical unit in said at least one receptacle holder along the beam path.

38. (Currently Amended) The module as in claim 37, wherein said filter array further comprises ~~further comprising a filter~~

~~array comprising at least one filter and~~ at least one additional filter ~~from said filter array~~ wherein said at least one filter and said at least one additional filter are frequency selective filters ~~and are coupled to said support housing~~.

39. (Previously Presented) The module as in claim 22, further comprising a collimator disposed within said support body and which is tuned to a numerical aperture of said fiber optic waveguide.

40. (Currently Amended) The module as in claim ~~39~~ 38, wherein said at least one filter is formed as a frequency selective device which chooses different spectrum ranges of a set of emission wavelengths.

41. (Canceled)

42. (Currently Amended) A fluorescence correlation spectroscopy module arrayed in an optical connection of a microscope comprising:

a support body having a plurality of cavities aligned along a beam path;

a coupling connection coupled to said support body;

a pinhole array comprising one pinhole disposed within said support body;

a fiber optic waveguide disposed within said coupling connection for coupling in stimulated light along said beam path;

a plurality of removable receptacle holders ~~(15)~~ removably inserted into each of said plurality of cavities in said support body ~~(4)~~ wherein each of said plurality of removable receptacle holders ~~(15)~~ have shaped centering surfaces for centering each of said plurality of removable receptacle holders ~~(15)~~ in each of said plurality of cavities; and

a plurality of optical components comprising at least one filter and at least one beam splitter with each of said plurality of optical components being disposed in each of said plurality of removable receptacle holders, said plurality of beam splitters for confocal division of an incoming beam path and an outgoing beam path, whereby outgoing and incoming light passes through each of said plurality of said beam splitters, or is reflected by each of said plurality of beam splitters while being focused.

43. (Previously Presented) A fluorescence correlation spectroscopy module arrayed in an optical connection of a microscope comprising:

a support body having a plurality of cavities aligned along a beam path;

a coupling connection coupled to said support body;

a pinhole array comprising one pinhole disposed within said support body;

a fiber optic waveguide disposed within said support body for coupling in a stimulation light;

a plurality of removable receptacle holders removably inserted into each of said plurality of cavities in said support body wherein each of said removable receptacle holders have shaped centering surfaces for centering each of said plurality of removable receptacle holders in each of said plurality of cavities;

a plurality of optical components comprising at least one filter and at least one beam splitter with each of said plurality of optical components being disposed in at least one of said plurality of removable receptacle holders, said plurality of beam splitters for confocal division of an incoming beam path and an outgoing beam path, whereby outgoing and incoming light passes through each of said plurality of said beam splitters or is reflected by each of said plurality of beam splitters while being

focused; and

at least one mirror disposed in at least one of said plurality of removable receptacle holders, wherein each of said plurality of optical components and said at least one mirror can be removed from said support body and inserted in a different order in a different one of said plurality of cavities or rotated 180° and reinserted to allow rapid frequency selection for the beam of the associated beam path.

44. (Currently Amended) A fluorescence correlation spectroscopy module arrayed in an optical connection of a microscope comprising:

a) a support body;

b) a coupling connection coupled to said support body;

c) a pinhole array consisting of only one pinhole coupled to said support body;

d) at least one detector coupled to said support body;

e) a lens array coupled to said support body and positioned between said pinhole and said at least one detector, for focusing

an emission light passing through said only one pinhole and onto said at least one detector; and

~~g~~ f) at least one beam splitter for dividing said stimulation light into a stimulation light beam path and an emission light beam path, ~~wherein said beam splitter is positioned before said pinhole in said emission light beam path.~~ ;

g)at least one additional beam splitter coupled to said support body along a path of said emission light behind said pinhole to decouple a first wavelength of said emission beam; and

~~f~~ h) a fiber optic waveguide disposed within said coupling connection for coupling in a stimulation light wherein said only one pinhole is disposed in said emission light beam path and between said beam splitter and said at least one additional beam splitter ~~only along the emission light and not along the stimulation light in the module.~~ ~~; and~~

45. (Previously Presented) The module as in claim 44, further comprising at least one additional lens coupled to said support body and positioned in said support body in said stimulation beam path between said fiber optic waveguide and said at least one beam splitter to produce a first focal point before said beam splitter and said at least one beam splitter produces a second focal point after said at least one beam splitter that is confocal with said

first focal point.

46. (Previously Presented) A fluorescence correlation spectroscopy module arrayed in an optical connection of a microscope comprising:

a) a support body;

b) a coupling connection coupled to said support body;

c) a pinhole array comprising only one pinhole coupled to said support body;

d) a fiber optic waveguide disposed within said coupling connection for transmitting a stimulation light; and

e) a beam splitter coupled to said support body in a position for confocal division of said stimulation beam path to produce an emission beam path wherein said emission beam path and said stimulation beam path pass through said beam splitter or are reflected by said beam splitter while respectively being focused in a focal point;

wherein a focal point of said emission light is after said beam splitter and a focal point of said stimulation light is before

said beam splitter.

47. (Previously Presented) A fluorescence correlation spectroscopy module arrayed in an optical connection of a microscope comprising:

a) a support body;

b) a coupling connection coupled to said support body;

c) a pinhole array comprising only one pinhole disposed within said support body;

d) a fiber optic waveguide attached to said coupling connection for coupling in a stimulation light; and

e) a beam splitter coupled to said support body and positioned in said support body for confocal division of a common beam path of said stimulation light and an emission light, wherein said stimulation light is focused through a focal point between said fiber optic waveguide and said beam splitter.

48. (Previously Presented) The module as in claim 44, further comprising at least one additional detector, and at least one additional beam splitter, coupled to said support body along a path

of said emission light behind said pinhole to decouple a first wavelength of said emission beam.

49. (Previously Presented) The module as in claim 45, wherein said only one pinhole is positioned in said support body along said emission beam at said emission beam focal point.